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AUTHOR Barnes, Barry P.
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ABSTRACT

This paper reports on a needs assessment undertaken as preparation for implementing Instructional Television Fixed System (ITFS) in the Denver metropolitan area as one solution to the problems of broadening access to and improving learning experiences offered by colleges and universities. An introduction describes problems of access to postsecondary education and explains characteristics and uses of ITFS programs, which are broadcast by a relatively inexpensive transmitter via a private microwave system. A description of the telephone survey covers sample selection; preparation of the questionnaires (which was eventually completed by 308 individuals); key demographic findings on the sample; and survey results. The report then describes procedures used and results obtained in personal interviews with 60 organizations in the Denver area representing business, industry, education, and social service agencies. An examination of ways to meet the needs expressed in the study for ITFS college courses includes information on obtaining an ITFS license and selecting a transmitter location. Eight references are listed, and appendices contain detailed survey results. (LMM)

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REPORT OF NEEDS ASSESSMENT FOR COLLEGE CREDIT COURSES VIA INSTRUCTIONAL TELEVISION FIXED SERVICE (ITFS) IN THE DENVER METROPOLITAN AREA

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Research Directed by

Ray Anderton, Ph. D.
Director,

Auraria Media Center
11th & Lawrence
Denver, Colorado 80204
(303) 629-2426

Written By

Barry P. Barnes
Chief, Instructional Development
Auraria Media Center

Project Coordinator

Reuben Espinosa

Project Staff

Dinah Krauthamer Cynthia Tyman

IR011291

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REPORT OF NEEDS ASSESSMENT FOR COLLEGE CREDIT COURSES VIA INSTRUCTIONAL TELEVISION FIXED SERVICE (ITFS) IN THE DENVER METROPOLITAN AREA

INTRODUCTION

Despite the clearly established American principle of equality in educational opportunity, access to higher education is still difficult for many Americans. Although the last decade of higher education has been marked by the rise of unselective institutions, especially community colleges, a 1974 United States Office of Education study found that only 37% of potential students were being served.[1] Those whose needs or wants were unmet included lower economic classes, the geographically remote, the handicapped and the aptitudinally unique.

So the goal of broadening access to higher education and making access continuous remains. We must increase the number of students served. But there is a paradox: Access alone does not lead to a successful educational experience. It measures nothing of the quality of experience. The doubling of college enrollment over the last two decades masks a major problem: The large and growing army of voluntary dropouts. Of the more than one million persons who enter college each year, fewer than half will complete two years of study and only about one-third will ever get their bachelor's degree. And just 20-25% of public community or junior college freshmen complete two-year programs.[2] If you are astonished to learn that most students who begin a course of study never finish it, then you are like most laymen as well as educators. If so, you may also assume that dropping out is an individual, not an educational problem.

This view is at best only half-true. The majority of dropouts cite these major reasons: 1) dissatisfaction with their college experience; and 2) the desire to reconsider personal goals and interests. It seems clear that "dropouts" reveal an educational problem of considerable magnitude. And the problem is greatest in the new, so-called unselective institutions.

One view is that society's obligation as well as its self-interest is to provide more than just a chance to walk through the college gate and be exposed to a "learning" experience. That experience must be useful and personally significant.

So, not only must access to college experiences be broadened and increased, but those experiences also must be made more relevant to prevent dropouts or to draw them back.

There is yet another large group of students needing better access to new and improved education. Ironically, this group is made up of successful students, many who have gone from kindergarten to Ph. D.'s in academic lockstep. Then they find they aren't sure why they've done it, or if it is really what they want for a career. Good students seem now more than ever to be making major decisions about their lives without knowing that they are making them.[3]

In the past this gliding past the critical point of career choice has characterized the deprived rather than the privileged. This was the way people decided to be miners or short-order cooks, but it was not the way those with the best of available educational opportunities chose their life work. So American higher education must also serve those who have "glided" past career choices or drifted into careers as well as those who just want to or have to change their career.

Now it must be granted that recent trends like open admissions and acceptance of part-time students give the never-served, the dropout and

the person who glided into a career a better chance to enroll at a college. However, there are limits to this conventional solution of bringing more "non-traditional" students onto campus. A campus does provide, in a comprehensive package, services needed for higher education--materials to read or view, faculties to teach and examine, and administrators to award degrees. The question is: Why must these services be bound to the campus?

There are technologies--cable television, communications satellites, miniature computers, videocassettes--that could help provide learning experiences appropriate to higher education. Chicago City College provides learning experiences through broadcast television and student access to faculty by telephone. Great Britain and Japan have developed open universities that combine broadcast television, local resource centers and correspondence materials in a new approach to higher education. A number of colleges now teach courses in employer's facilities--extending access to higher education to workers on the job. At least two universities, the University of Southern California and Stanford, teach courses at work places via a little-known and largely untapped technology--Instructional Television Fixed Service, better known as ITFS.[4]

WHAT IS ITFS?

One way to describe ITFS is to compare rifles and shotguns. Regular TV is like a shotgun with programs scattered over a broad audience. Like a rifle, ITFS targets a specific audience that can intensify the impact of the broadcast as well as offer special use controls.

ITFS programs are broadcast by a relatively cheap transmitter ($25,000-$35,000) via a private microwave (2500 MegaHertz) system. Only facilities with special antennas and "down converters" can receive the signal. A "down converter" changes the 2500 MHz signal to a VHF signal

(Channels 2-13). The cost of each converter and special antenna is about $2,000. In-building cable then carries the signal to individual television sets. Each connection in the building costs about $100 and would be usable for cable television as well as ITFS. Receiving equipment is fairly easy to move from one location to another, permitting trials of potential sites.

It is the ITFS technology that the Auraria Media Center wishes to use in the Denver metropolitan area as one solution to the problems of broadening access to and improving learning experiences offered by colleges and universities.

There are at least five characteristics and applications of ITFS systems:[5]

1. An ITFS system is relatively inexpensive when compared to VHF or UHF television broadcasting. The AMC already has television production equipment and only needs money for an ITFS transmitter and receiving equipment to become technically operational. Some money for increased production as well as purchase or rental of films and videotapes would be needed. ITFS gives an agency control of this instructional capability. For example, Denver's Channel 6 can't control who receives its signal and the Denver School Board complains that they pay for instructional television all over the state.

2. A typical four-channel ITFS system makes it possible to program materials with great flexibility. Four lessons can be broadcast simultaneously. Multiple and special request scheduling can be easily arranged. Studies show that few students take more than two or three courses via broadcast television. The basic reason is that broadcast television is very limited in the times available for instructional programs. This is emphatically not the case with ITFS. The videotape recording of ITFS programs off-the-air for convenient and repeated playback adds further flexibility for meeting student needs.

3. ITFS systems are usually established with a commitment to their use. If this is true in Denver, the entire effort from development to use to evaluation can be a common administrative task. Many ITFS systems further aid administration by incorporating staff development and staff meetings in their programming.

4. ITFS assures widespread access. Not only classrooms but also hospitals, police or fire stations, prisons, factories,

schools, libraries, offices, nursing homes and social service agencies can be reached if they have receiving equipment.

5. ITFS can be a technological link in a system approach to telecommunications. By feeding cable systems (currently almost non-existent in the Denver area) or by converting the signal to UHF, a standard receiving capacity of every television set, ITFS can reach homes. It can receive satellite (or VHF or UHF) programs and distribute them to its receiving locations. ITFS can also accommodate a variety of electronic signals: television, telephone, hard-copy facsimile, computer data and high quality audio which can be made two-way, making the system "interactive."

The essentially private nature of ITFS, where viewers go to a receiving location, is seen as a significant educational advantage. In-home formal education via standard broadcast television has not been generally successful and such instructional television is becoming rare. Perhaps the reason is related to the decline in initiative when working alone. Completion rates well under 50% are common for courses taken by correspondence. Furthermore, procrastination has made incompletes the rule rather than the exception in many self-paced courses such as those offered by Metropolitan State College. Having to go to a convenient location should produce a group of learners taking the course offered via ITFS. Not only does peer pressure sharply increase completion rates, but the presence of fellow students provides someone to talk to about the lesson and to work with on assignments. This kind of peer interaction is an addition to tutorial services such as those provided by the learning resource centers in open universities in Japan and Great Britain. Small gatherings of learners also make it easier for teacher's assistants, group facilitators, resource people, exam proctors--even the TV teacher--to meet personally with students. Human interaction is the glue that holds together any educational system. So courses offered by ITFS can enhance the humanity of education, a most positive side-effect.

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Finally, with the addition of recorders, timers and trained personnel at the receiving locations, ITFS programs can be recorded and stored for playback at the site for the self-motivated at more convenient times.

Despite the preceding rationale for college courses offered through an ITFS system, the tough questions need to be answered: Do the people and organizations of the five-county Denver metropolitan area really need or want the service? If so, what do they need?

With a $5,000 grant from the Johnson Foundation of Denver, an estimated $5,000 in in-kind services from AMC staff and $14,000 in salaries from the Comprehensive Education and Training Act (CETA), the Auraria Media Center has completed a survey that assesses the needs of the Denver metropolitan area for college courses and their provision by means of ITFS. What follows is a final report of that needs assessment.

ITFS SURVEY REPORT

PART I: THE TELEPHONE SURVEY OF INDIVIDUALS

SELECTING THE SAMPLE AND PREPARING THE QUESTIONNAIRE

After hiring a project coordinator through a CETA grant, the first task was to develop a scientific sample of people to be interviewed by telephone. Because ITFS transmits an excellent signal for about twenty miles in a 360-degree circle, it was decided to assume the transmitter would be located at the Auraria Media Center in downtown Denver. A circle with a twelve to fifteen mile radius was then drawn around the AMC. The area covered included the counties of Denver, Jefferson, Adams and Arapahoe and the cities of Denver, Montbello, Lakewood, Arvada, Northglenn, Aurora, Englewood and Littleton. It did not include Boulder.

Dr. Lee Valas, consultant in sampling methodology, then selected the sample. Using the 1977 Census Estimates for each tract within the

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circle, she determined that there were 403,127 households in the total area. Mountain Bell estimates that 95% of Denver area households have telephones.

Nineteen areas within these geographical boundaries were identified by their telephone exchanges. A proportion of the total sample was then assigned to each telephone exchange area on the basis of its proportion of the total households. Table 1 shows the nineteen areas, the number of their households, each area's percentage of the total households, and the number of households represented in the sample:

Table 1
Telephone Exchange Areas Represented in the Sample

Telephone Exchange Area	Number of Households	Percent of Total Households	Number of Households to be Interviewed
Aurora	38,080	9.4	69
Arvada	36,880	9.1	66
East (Denver)	36,160	9.0	65
Dry Creek (Arapahoe)	29,190	7.2	53
North (Denver)	24,030	5.95	43
Capitol Hill (Denver)	23,080	5.7	42
Littleton	22,770	5.6	41
Northglenn	22,570	5.6	41
South (Denver)	22,500	5.6	41
Southeast (Denver)	21,660	5.4	39
Lakewood	20,880	5.2	38
West (Denver)	20,540	5.1	37
Westminster	20,160	5.0	36
Main (Denver)	18,920	4.7	34
Northeast (Denver)	16,710	4.1	30
Englewood	10,807	2.7	20
Southwest (Denver)	10,040	2.5	18
Montbello	4,920	1.2	9
Columbine	3,230	1.0	7
Total	403,127	100.05	729

A sample size a little over 300 would ensure having a sampling error at the 5 to 6% level. Given the problems inherent in telephone surveys--disconnected phones, unwillingness to participate, etc.--this number was more than doubled to 729 so the final sample interviewed would still be large enough to fall within acceptable sample error limits.

Final selection of the 729 phone numbers to call was made by a random number process using The 1978 Coles City Directory.

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The procedure used is known as stratified proportionate sampling. It ensures that each household in the nineteen stratified sampling units, in this case telephone exchanges, has an equal chance of being selected. Furthermore, each exchange area is represented in the sample according to its proportion of the total population sample. It should be noted that certain areas have proportionately fewer telephones. However, by using the household proportion, rather than telephone exchange proportion, it was hoped an adequate sampling of these areas would be made. Also, by using households as the sampling frame, the problem of multiple phones (i.e. children having their own phones in a household, business phones in homes, etc.) in any particular household might be alleviated or at least minimized.

While the sample was being selected, the Telephone Survey Questionnaire was prepared and coded for computer handling. Basically, the questionnaire was simple, designed to find out if Denver-area residents would take college level courses in public buildings near their homes and if they would take them via ITFS. If so, which of five TV options would they prefer? Also, what courses would they like to take? After the questionnaire was completed, three telephone interviewers were hired through CETA grants and trained to administer the questionnaire over the phone. Interviews were completed with 308 of the sample of 729. This completion rate of 42.2% is considered good for telephone interviews and produces a sampling error within the 5 to 6% level set.

KEY DEMOGRAPHIC FINDINGS

Although phones not answered during the day were called three times at night before dropping the number, the majority of completed interviews were conducted during the day and respondents were disproportionately female, 68% to 32% male. Racial and ethnic makeup was also disproportional with 91.6% of the respondents classified as Anglo. Minorities are estimated to make up from 15 to 20% of the population sampled. Education completed by the 308 respondents

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was distributed as shown in Table 2. The most interesting finding is that 62.3% have either completed high school or have had some college without completing requirements for a degree. This large group represents a prime target for non-traditional higher education. It also shows that the need in the Denver metropolitan area is comparable to that for the nation as a whole.

Table 2
Education Completed by ITFS Survey Respondents

Education Completed	Number of Respondents	Percent
8th Grade or Less	8	2.6
Some High School	18	5.8
High School	109	35.4
Some College or Trade School	83	26.9
Two-Year Degree or Trade School	6	1.9
College	53	17.2
Graduate Training	17	5.5
Advanced Professional Degree	11	3.6
No response	3	1.0

The data in Table 2 can be compared to 1970 census data on the education of Denver SMSA (Standard Metropolitan Statistical Area) residents 25 or more years of age. Table 3 summarizes that 1970 information.[6]

Table 3
1970 Denver SMSA Census Data on Education
Completed by Population Over 25 Years of Age*

High School Not Completed	208,310	32.5% of total
High School Completed	222,817	34.8% " "
One to Three Years of College	98,741	15.4% " "
Four or More Years of College	110,572	17.3% " "

*Denver SMSA includes all or most of the following five counties: Denver, Jefferson, Arapahoe, Adams and Boulder.

The comparison between Tables 2 and 3 shows that the sample interviewed had a larger proportion of people with four or more years of college and a smaller proportion with less than a high school diploma. Although the 1970 data is old, it is fair to conclude that the ITFS survey sample is skewed in the direction of higher education levels than the population as a

whole. However, this is a weakness inherent in a survey employing the telephone as a medium for interviews. People with less education are more likely not to have a phone and, if they do have phones, they are less likely to be home. Finally, they are less likely to be willing to take the time to give interviews if they are reached.

While their educational needs are great, the irony is that people without high school diplomas probably would be the most difficult to get interested in ITFS and the most likely to drop out if they could be enrolled. Their relative lack of representation is an admitted weakness of this assessment of needs, but in no way invalidates the needs that were found. As with minorities and the young, more research is needed on how best to serve the severely undereducated.

Other data collected showed that only 9.7% (30) of the respondents were currently enrolled in a class for college credit. An additional 12.0% were enrolled in non-credit classes. So only 21.7% of the respondents were taking some kind of course work. Again, the pool of potential college students seems largely untapped.

Despite proportions of Anglos, women, and the middle class greater than their proportion in the total population, the sample seems more than adequate for the purposes of this study: The determination of a potential market for college level courses via ITFS technology.

KEY FINDINGS OF THE TELEPHONE SURVEY

Perhaps the key finding of the telephone survey was that nearly three-fourths of the respondents, 74.7% or 230 people, would be interested in taking college-level courses in public buildings near their homes. And 60.7% or 187 interviewees said they would take a class by ITFS. The drop-off of only 14% from the desire to take classes and the willingness to take

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them via ITFS is perhaps the most encouraging finding. It projects to a huge pool of potential college students who would make use of ITFS. Those 187 students were then asked further questions on five ways of taking courses using videotapes or ITFS.

The planned ITFS system as well as the five options selected were based on guidelines for the application of technology to education derived by Gibbons, Kincheloe and Down from comparisons of some of the most successful ventures in educational technology with some of the least successful. The guidelines are as follows:[7]

1) The educational program should be planned for a specific audience.

2) Specific educational objectives that are relevant to the needs and interests of the audience should be clearly defined.

3) Technologies should be chosen in terms of the topic to be presented. Frequently, different technologies are used to present different parts of a course, the choice being determined from a consideration of which technology is most effective for the material being presented. It is desirable (though also expensive) to use both knowledge and media specialists to prepare and produce the programs.

4) Educators who have a clear interest in learning and using the instructional characteristics of various media should be selected and trained.

5) Clear and careful provision should be made for personal interaction, especially among the students.

6) Evaluation and feedback over a period of months or years should be used to monitor the educational effectiveness of the program, and the instructional materials and methods should be changed accordingly.

The guideline that is perhaps most often overlooked is the one relating to personal interaction. Television is most frequently used as a substitute for live lectures. While such use solves problems of cost and access and is generally conceded to be as effective as conventional lectures, it has five serious weaknesses as Schramm has found:[8]

1. Television as a substitute for live lectures does not stop to answer questions;
2. It does not readily permit classroom discussion;
3. It is inefficient for conducting drill;
4. It does not adjust very well to individual differences; and
5. It tends to encourage the same kind of passive learning as the lecture system it imitates.

To overcome these weaknesses, essentially the low quality of personal interaction, five options were selected from which respondents could choose. The options are as follows:

1. Viewing the ITFS lesson in a group at a site near the home or at the work place plus access to an instructor or tutor by telephone.
2. Group viewing as above with phone access to an instructional assistant and small group discussions with the instructor or a paraprofessional assistant or tutor.
3. Group viewing with phone access and small group discussions plus the availability of a videotape recording of the ITFS broadcast for more convenient playback and review.
4. No group viewing. Self-paced viewing of videotapes of lessons available for convenient playback plus phone access to an instructor.
5. Self-paced viewing with phone access plus small group discussions.

The respondents first chose every option they would be willing to use to take off-campus college courses. The option chosen by the highest percentage of respondents, 72.7%, was that of group viewing with phone access to an instructor and small group discussions with the instructor or an instructional assistant.

Only slightly less frequently chosen at 72.1% was the option of taking a course by yourself at virtually any time via recorded videotape as well as having phone access to an instructor and supplemental small group discussions.

The option of group viewing with phone access to an instructor plus access to the videotape at student convenience was accepted by 70.5%

The fourth option was the most self-paced: Viewing video lessons by yourself at your convenience with phone access to an instructor for answering questions and arranging assignments. It was chosen by 61.4% of those who would take televised courses.

Finishing last, but still approved by 59.4%, was the fifth option: Group viewing supplemented only by talking to an instructor via phone.

It is significant that every option was chosen by a majority of the respondents. However, because respondents could choose one or more of the above options, a question asking for the preferred option yielded surprising results: The option preferred by a wide margin ranked only fourth above. The individualized, self-paced version with phone access to an instructor was preferred by 31.2% of the respondents. Finishing an extremely poor last and fifth, with a mere 2.6% preference, was the option of group viewing plus phone access. Table 4 summarizes data on preferred options:

Table 4
Preferred Options for Use of ITFS*

Option	Number of Respondents	Percentage
1. Group viewing plus phone access to instructor.	2	2.6
2. No. 1 plus small group meetings with instructor.	43	14.0
3. No. 2 plus convenient playback of videotape.	69	22.4
4. Individual self-paced viewing plus phone access to instructor.	96	31.2
5. Individual self-paced viewing plus phone, plus small group meetings.	47	15.3

*49 respondents or 15.9% gave no answer or gave answers that were not applicable.

Therefore, it can be safely concluded that most students would take college-level courses via any ITFS option. The largest number, 31.2%, prefer an individualized, self-paced mode dependent on recorded video lessons supplemented by phone access to an instructor. Of course, this method would not require an ITFS system nor any in-building cabling. Any location with a video player and TV monitor could play the tapes. However, ITFS would still facilitate distribution if receiving locations had videotape recorders and people to operate them. The option preferred second--group viewing plus phone access plus small group discussions--would require ITFS. Finally, because 69% preferred the options with convenient playback of videotapes (options 3, 4 and 5 in Table 4), a reasonable conclusion is that the ITFS system should have recorder/players at each receiving site. These could record off-the-air for later use. While the two options not employing recorder/players for convenient playback were only preferred by 17% of the respondents, about three out of five would take courses without convenient playback. Because the inclusion of the playback option requires both equipment and people, its use may be limited by economics. Nevertheless, ITFS would still be possible.

Questions were also analyzed by metropolitan area with some interesting results. For example, 44.4% of Capitol Hill respondents said they would <u>not</u> take a televised class. In Aurora, on the other hand, 81.0% would take a class. Both differences from the overall 60.7% seem significant. If Capitol Hill is deleted, yes on ITFS approaches 75%.

Similar differences show up on the five options, with Aurora most often liking options and Capitol Hill disapproving. Lakewood, Littleton and the category of All Others fell between the positiveness of Aurora and the lukewarm ratings of Capitol Hill.

The areas also differed on the options they preferred. Aurora, with 36.4%, and Capitol Hill with 50.0%, picked the favored option by more than the average of 31.2%. Lakewood preferred the second option, group viewing with phone access to an instructor plus small group meetings. Littleton preferred the third option, group viewing, small group meetings, phone access to an instructor, plus convenient playback of videotapes. So there are variations in preference between the metropolitan telephone exchange areas. A breakdown of area data is in Appendix I. Complete breakdowns of results from all nineteen telephone exchange areas is being prepared and will be available at the AMC.

Perhaps of greater importance than the preferences for ITFS options are the findings about general interest in taking college level courses off-campus. These questions did not specify how the classes would be taught. The answers to these questions are as follows with "Don't Know" and "Not Applicable" answers omitted:

> Question: Would you be interested in taking college level courses in a public building such as a library, church or community center near your home?
>
> Answer: Yes - 74.7%; No - 15.6%
>
> Question: Would you be interested in taking classes at your place of employment?
>
> Answer: Yes - 39.6%; No - 36.7%
>
> Question: Which would you prefer, classes near home or at work?
>
> Answer: Near Home - 64.0%; At Work - 10.1%
>
> Question: Would you be interested in receiving college credit for the classes?
>
> Answer: Yes - 60.7%; No - 25.6%

The conclusion seems clear: There is a large pool of potential students for off-campus college classes for credit, and most of them would

prefer to take the classes near their homes. This data adds to the existing evidence supporting the rationale that access to higher education needs to be broader and more continuous than it is.

The final questions asked what the respondents wanted to learn both generally and specifically. Here are the results:

Question: Would you be interested in adult education classes such as parent effectiveness training, consumer education, community politics, etc.?

Answer: Yes - 59.1%; No - 29.2%

Question: Would you be interested in taking classes for cultural enrichment, professional or job-related growth, or both?

Answer:		
	Cultural Enrichment	14.3%
	Job-related Growth	18.5%
	Both	56.2%
	Don't Know or Not Applicable	10.3%

Question: Which of the following classes would you be interested in taking? (Choose no more than three.)

Answer:		
1.	Business	42.8%
2.	Fine Arts	39.3%
3.	Liberal Arts	34.7%
4.	Physical and Biological Science	23.7%
5.	Adult Education	23.4%
6.	Mathematics	22.1%
7.	Education	20.0%
8.	Health Occupations	16.5%
9.	Human Care Services	16.2%
10.	Engineering	11.4%
11.	Industrial Occupations	10.7%
12.	Other	6.0%
13.	Don't Know	.3%

Complete results are in Appendix II.

Again, the conclusions are clear: There is a need in the Denver metropolitan area for almost every kind of college-level offering. Substantial numbers of citizens want college courses and there appears to be

an economically sound market for virtually every academic or vocational discipline. For example, if we estimate the population sampled at 300,000 individuals 25 years old or older, then there is a potential pool of 225,000 students, 180,000 of whom would take courses via ITFS. And nearly 20,000 would be interested in courses in Industrial Occupations, the topic with the lowest interest. Seventy-seven thousand (77,000) would be interested in business courses via ITFS! The positiveness of the findings lends firm support to the AMC's desire to establish an ITFS system for Metropolitan Denver. A market only 10% of that estimated would still generate a student head count nearly equal to that of the Auraria Higher Education Center.

While findings of individual needs and wants for college-level courses were highly positive, a second purpose of the ITFS survey was to determine the extent of that need among organizations.

ITFS SURVEY REPORT

PART II: THE PERSONAL INTERVIEW OF ORGANIZATIONS

SELECTING THE SAMPLE AND PREPARING THE QUESTIONNAIRE

Sixty Denver area organizations were selected for personal interviews by a research team. Organizations were selected to form a representative sample of business, industry, education and social service agencies; they are categorized as follows:

Community Service	17
Education/School District	10
Civil Service	16
Large Corporation	7
Heavy Industry/Manufacturing	5
Public Utility	3
Professional Association	2

A questionnaire was developed to draw out demographic data as well as information about potential use of an ITFS system. A letter explaining the project and requesting cooperation was sent to each organization. Appointments were then made and the research team was trained and oriented. The same

CETA employees who conducted the telephone interviews formed the research team.

KEY FINDINGS OF THE ORGANIZATION SURVEY

Regarding demographic data there was a bi-modal distribution of organization size as measured by number of employees. Nearly 44% (25 organizations) had over 1000 employees and 51% (28) had 500 or fewer. Of the latter, 26.3%, or 15 groups, could be classified as small with 100 or fewer employees.

Organizations with members--trade unions and professional associations--were also large. Half said they had over 1000 members.

Three-fourths of social service agencies reported serving 1000 or more clients aged 17 or over.

So survey results are definitely skewed in the direction of large organizations. Yet these are the ones most likely to have the resources to work with an ITFS delivery system.

To gather the information needed about potential use of ITFS, the research team first explained ITFS to the organization representative, usually a training director. Then the representative was asked a number of questions. The first question asked was whether employees or clients would make primary use of the capability. Thirty-three organization representatives said employees, seven said clients and 20 said both employees and clients would make primary use of ITFS.

Forty-six organizations said the potential student body from their organization numbered more than 500. Of this group of possible students, only 19% were reported as having a college degree. In addition, 72% of the organizations reported less than a fourth of the potential students were presently enrolled in a college course for credit.

Of the students presently enrolled in a college credit course, just 21% of the organization representatives felt that half or more of them would take advantage of an ITFS course either at their work place or near their homes. Thirty-six percent felt that less than half the present students would utilize ITFS. A whopping 43% either didn't know or their answers weren't applicable.

Of the larger group of potential students not presently enrolled in a college credit course, organizations were even less positive about ITFS participation. Only 10% felt half or more of potential students would take advantage of either work-pace or near-home ITFS. Forty-one percent reported that less than one-fourth would use ITFS. About 30% didn't know.

While the preceding results from organizations are not as positive as the 61% of individuals who said they would utilize ITFS, the potential market is still large. Furthermore, individuals may have a greater desire for college credit courses than their employers estimate. The large number of "Don't Know" responses makes the organization results suspect. Individual data suggests the "Don't Know" responses may obscure higher interest in taking college courses by ITFS.

The fact that two-thirds of the organizations have tuition refunds or financial aid for their employees or clients makes it more likely students could be found from Denver area organizations.

Organization results became more positive when they were asked if they could foresee the use of ITFS in conjunction with certification or refresher training for employees. Forty-six organizations, 75.4%, said "Yes."

Trade or professional associations foresaw the use of ITFS for skill upgrading, keeping up with new materials or enhancing professional ability.

The most positive finding was that 54% of organizations would either install an ITFS facility on their premises or help in efforts to establish

such a facility. This finding alone seems to justify the establishment of an ITFS system in metropolitan Denver. Of those saying "No" or "Don't Know," the major unknown was cost. More precise cost figures may increase the number of organizations willing to install an ITFS receiving capability.

The last question asked for types of courses judged best for serving the needs of employees, staff, clients or members. Here are the results: (As with individuals, choices were limited to three.)

	1.	Management	52.5%
	2.	Skills Updating	37.7%
	3.	Adult Education	36.1%
	4.	Professional Updating	34.4%
Tie---	5.	Certification/Recertification	21.3%
	5.	Technical Training	21.3%
	7.	Life Skills	19.6%
	8.	Human/Customer Relations	16.4%
	9.	Advanced Training	14.7%
	10.	Industrial	10.0%
Tie---	11.	Health Maintenance	9.8%
	11.	New Technologies	9.8%
	13.	Computer Science	6.6%
	14.	Labor Relations	6.5%

Based on the organizational survey, the following conclusions seem warranted:

The desire for courses in Management was consistently expressed by large employers in both the public and private sector, for use by top management through first line supervisors.

Professional associations, corporations, and agencies with large components of professional and skilled employees expressed a strong desire for courses in Skills Updating and Professional Updating.

Virtually all respondents expressed alarm at the lack of basic written and oral communication and organizing skills of employees and staff at all levels. This concern expressed itself in the desire for courses in Adult Education, Management, and Skills Updating (the top three choices overall).

Community service organizations (e.g., community centers and volunteer

organizations) requested courses primarily in Life Skills, Adult Education and Management for their clients and staff.

School districts and educational support organizations, which service students, teachers and staff, as well as the general community, expressed a desire to utilize ITFS for teacher certification as well as student and community instruction.

Light to heavy industries tended toward industrial and technology-related courses, courses in Labor/Human/Consumer Relations as well as courses in Management and Adult Education. Complete results of the Organization Survey are in Appendix III.

It should be noted that some of the above conclusions are based on information supplied by respondents during each personal interview or else supplied by respondents in the comments section of those questionnaires that were returned by mail, all of which is documented and on file at our office. A final conclusion is based on the comments section of those questionnaires. Only one representative saw no need for ITFS. Twenty-two commented that they wanted to be kept informed, many of those twenty-two comments were underlined or capitalized.

WHAT HAPPENS NOW?

Given the conclusion that large numbers of Denver area citizens need college courses and would take them if offered near their homes via ITFS, the problem remaining is how best to meet that need.

Because the whole project depends on getting an ITFS license from the Federal Communications Commission (FCC), steps to get a license should begin as soon as possible. Because ITFS channels are limited and some are already in use by the police, the fire department and the University of Colorado, alacrity in applying is needed. Also, other agencies are considering

applying for an ITFS license. While there are three requirements for an application to the FCC for a permit to construct an ITFS system--engineering, financial and legal--only the engineering feasibility study needs to be completed as soon as possible. The financial solvency and legal authority of the applicant agency must also be demonstrated but are relatively easy requirements to meet. However, which agency would be the best applicant needs further study and will be discussed later.

The engineering feasibility study determines profiles of the ITFS signal from the transmitter site to a sample of locations. Thus, before the study could begin, a transmitter location would have to be secured. If the transmitter could be placed on top of one of the tallest buildings in downtown Denver, there should be a strong, relatively unobstructed Grade A signal covering a circle with an approximate 20-mile radius. A Grade B signal would cover an area with a radius of 30-35 miles. The Grade B signal is acceptable but is subject to more interference and obstruction. It is estimated the Grade A signal would reach an area with a total population of at least 1,000,000. The Grade B signal would reach an area with over 1,500,000 people. Figure 1 shows the estimated areas of coverage by the Grade A and Grade B signals.

The Auraria Media Center will seek funding to locate the transmitter, select sample sites for receiving equipment and conduct the engineering feasibility study. It is estimated that the cost for completing engineering work necessary to a formal license application will be $10,000.

After the engineering study is underway, determination of the applicant agency for the ITFS license must be made. Because the AMC has the technical skill to install and operate an ITFS facility and serves the three Auraria institutions that offer courses ranging from the remedial to the

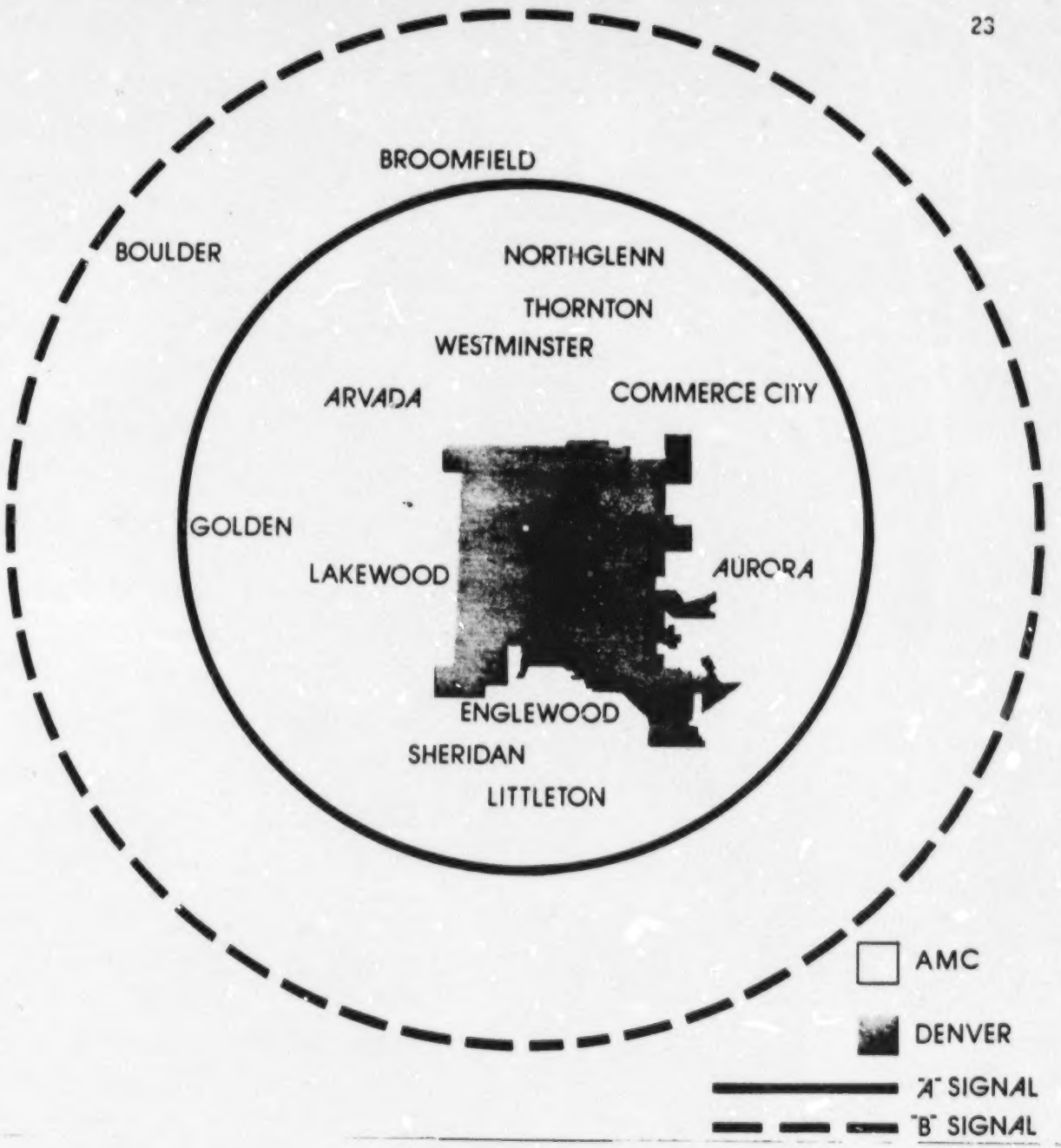

Figure 1

Estimated Grade A and Grade B

ITFS Signals in Denver Area

graduate level, the original plan was for the AMC to be the licensee. However, it is questionable whether the AMC has acceptable financial status and legal authority. Of course, there is no doubt that the Community College of Denver (CCD), which administers the AMC on behalf of all three Auraria institutions, would be legally and financially acceptable. The AMC could then be designated by the licensee to manage and operate the system.

Because community colleges are leaders in the use of television for college instruction, awarding the Denver ITFS license to CCD seems natural. But there are two good reasons to give that option careful consideration:

1. The mission of CCD limits it to offerings that would not meet the full range of needs; and

2. Most community college television instruction--Bergen Community College, Coast Community College, Miami-Dade Community College and Dallas Community College--has been carried out via broadcast television. This means course offerings are limited and few students complete more than two or three courses. The stated goal of such programs is to give students successful learning experiences that will draw them to campus to complete a certificate or degree on-campus. The AMC's conception of ITFS is the heart of a system to provide off-campus alternatives for college credit in a comprehensive range of courses, even an alternative to degrees or certificates.

Grant the assumption that a full range of courses eventually should be offered on the proposed ITFS system. Then there seem to be two general alternatives to the problem of the best licensee if no existing institution can offer such a comprehensive range of needed courses: 1) a new "Colorado Open University" able to contract for needed instruction from present institutions or other sources; or 2) an organization that merely sets up and operates the ITFS. Any college or agency using the system would pay for its use.

Clearly, the latter role was what the AMC first had in mind. And it is one that CCD or another license holder could fill. It has the advantage of creating a non-threatening conduit agency; but it has two singular disadvantages: 1) it depends on existing agencies to take the initiative;

and 2) it does not promise to offer a full range of courses; colleges could be expected to compete in offering the traditional TV fare of introductory courses. Furthermore, there would be no guarantee that the investment required to establish an ITFS system would be matched by commitment to its use.

If this argument is sound, the conclusion is that a new organization with power to grant credit and award degrees is needed. Actually, it would also be possible to re-define the role and mission of an existing agency. The preferred agency would depend on whether the ITFS system was to be localized in the Denver area or be a base for service to all of Colorado.

If a statewide agency is created or modified, it could contract for the content and methodology of instruction from any existing college or university. So a Coloradan might get a degree by taking speed reading from CCD, psychology from CU, biology from CSU and educational philosophy from UNC. Institutions with unique programs such as fashion design at Arapahoe Community College could offer courses anywhere in the state. Because there would be a new pool of students, the much-feared faculty cutbacks need never occur. Yet there would be no tenure and no huge new bureaucracy nor physical plant. The program would expand if it successfully met the needs of Coloradans. Competition for ITFS or "Open University" contracts might actually lead to better instruction, not only for the ITFS students but for all students. Of course, a statewide system would have to make use of these two methods of distribution:

1. Videotapes, audiotapes, correspondence materials--even para-professional tutors--sent wherever there was a need and a TV player and monitor; and

2. The feeding of ITFS broadcasts into cable systems for distribution to any home in Colorado with a cable hook-up.

Two specific examples of how such a capability could serve Colorado might illuminate the potential of such an ITFS system. The first example

concerns a little-known problem about a bill to control automobile emissions in Colorado: How to train mechanics to test cars for air pollution. CSU is able to offer the training, but only on the campus. An ITFS system with statewide capability would seem to offer an effective way to conduct that training along with periodic reviews and updating.

The second example is not dependent on the passage of a bill. Already in effect is a requirement that Colorado lawyers and judges receive 15 hours a year of skills updating. There are about 8,000 lawyers and judges in Colorado, many of whom are in outlying areas. Again, ITFS seems to offer one solution to this problem in the delivery of instruction.

The second agency that could operate an ITFS-based system of higher education would be a licensee for an ITFS system limited to the Denver area. It would have to be empowered by the legislature to take on academic responsibility. For example, the Auraria Higher Education Center (AHEC) already has a university, a state college and a community college from which to draw the full range of courses especially appropriate for the five-county Denver area. The development and establishment of an ITFS system might wisely begin on a relatively small scale with the licensee being the governing board of AHEC.

With an engineering study in hand and an applicant determined, the ITFS license could be sought. Awarding of the license would present the problem of how to get started. If reaction to this report is favorable, the AMC will prepare a proposal with precise costs and a plan for trying out an ITFS system in the Denver area. The tryout should include such variables as audio talk-back and facsimile copying as well as the options of group or individual viewing, small group meetings, phone access to instructors and para-professional tutors. Existing television courses should be leased and some courses should be developed locally using the staff and

facilities of the AMC. A variety of courses should be tried as well as a variety of receiving locations to include a sample of organizations for whom special courses may be needed.

In fact, it may be possible to begin with business, industrial and commercial organizations in order to get financial help in advance for the broadcasting and receiving equipment needed to begin. Stanford University, for example, offers graduate engineering courses via ITFS to over forty companies in the San Francisco Bay Area. The entire Stanford operation is supported by the companies and by tuition roughly double the regular amount. In Denver, courses for the community at large could follow successful efforts with organizations.

Naturally, organizations would pay the full cost of instruction. There would be little or no state subsidy. However, making the program self-supporting might be a problem with courses for individuals. While the data in this report suggests the number of college students can be markedly increased, this assumes tuition costs to the student would be comparable to costs at state-supported schools. If tuition is substantially higher for ITFS students, enrollment gains could be minimal. The dilemma can probably be solved because of cost efficiencies inherent in ITFS.

For example, courses leased from other colleges would not require as much faculty support as one taught conventionally. The same would be true of repeats of courses locally produced. The professor would still be available for supervising tutors, small group meetings, and some phone access. But the bulk of these tasks would be performed by less costly tutors, many of whom could be competent and experienced retired persons.

Because the market is now largely unserved, there should be little negative economic impact on present institutions of higher learning. As with present continuing education programs, most of the instruction would

be in addition to present programs. But it does remain unclear what the state's dollar contribution will or should be.

Current state policy requires all outreach or continuing education offered by state colleges or universities to be self-supporting; that is, it must pay for itself. This policy contributes heavily to the reputation of continuing education as less prestigious and deserving. The policy is the most serious obstacle to the success of any off-campus alternative to higher education. It is a carryover from the era when college for non-traditional students was not valued highly. Fortunately, the state does subsidize outreach or continuing education offered for credit by the community colleges. If CCD was able to increase its range of offerings to include upper division and graduate level courses, then it could become the licensee for the ITFS system. Surely, some satisfactory financial compromise with the state can be worked out.

To conclude, it seems the state of Colorado has a great opportunity to be of substantial service to its citizens by providing college courses near their homes or at their jobs. Whatever problems there are do not seem insoluble. The people are knocking. We must find a way to open the door.

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APPENDIX I

BREAKDOWN OF SELECTED ANSWERS TO ITFS SURVEY QUESTIONS BY TELEPHONE EXCHANGE AREAS

TELEPHONE SURVEY ITFS QUESTIONNAIRE

METRO AREA BREAKDOWN

OF SELECTED QUESTIONS **

(1) Q. Would you take such a class if it was presented by televison?

		Aurora	Capitol Hill	Lakewood	Littleton	All Others	Overall
(YES)	Respondents	17	10	15	10	135	187
	PCT of Area	81.0	55.6	71.4	76.9	74.2	60.7
(NO)	Respondents	4	8	6	3	47	69
	PCT of Area	19.0	44.4	28.6	23.1	25.8	22.4

(2) Q. Would you take a televised class in a group, with the option of talking with an instructor by phone?

		Aurora	Capitol Hill	Lakewood	Littleton	All Others	Overall
(YES)	Respondents	18	9	13	12	131	183
	PCT of Area	78.3	50.0	59.1	66.7	67.2	59.4
(NO)	Respondents	5	9	9	6	64	94
	PCT of Area	21.7	50.0	40.9	33.3	32.8	30.5

(3) Q. Would you take a televised class in a group, with the option of talking with an instructor by phone, and where you can have small group meetings with the instructor at a later time?

		Aurora	Capitol Hill	Lakewood	Littleton	All Others	Overall
(YES)	Respondents	19	11	13	15	166	224
	PCT of Area	79.2	55.0	59.1	78.9	79.0	72.7
(NO)	Respondents	5	9	9	4	44	72
	PCT of Area	20.8	45.0	40.9	21.1	21.0	23.4

(4) Q. Would you take a televised class in a group, where you can talk with an instructor individually by phone, and where you can play back the lesson at your convenience?

		Aurora	Capitol Hill	Lakewood	Littleton	All Others	Overall
(YES)	Respondents	18	9	14	14	162	217
	PCT of Area	72.0	47.4	63.6	70.0	77.5	70.5
(NO)	Respondents	7	10	8	6	47	79
	PCT of Area	28.0	52.6	36.4	30.0	22.5	25.6

(5) Q. Would you take a televised class by yourself, anytime you want, where you can play back the lesson at your convenience, as well as being able to talk to an instructor by phone, and meet with him or her in small group meetings?

		Aurora	Capitol Hill	Lakewood	Littleton	All Others	Overall
(YES)	Respondents	17	13	14	14	163	222
	PCT of Area	70.8	65.0	66.7	70.0	76.5	72.1
(NO)	Respondents	7	7	7	6	50	78
	PCT of Area	29.2	35.0	33.3	30.0	23.5	25.3

(6) Q. Would you take a televised class by yourself, anytime you want, where you can play back the lesson at your convenience, and talk to an instructor to arrange assignments and ask questions, a kind of self-paced instruction?

		Aurora	Capitol Hill	Lakewood	Littleton	All Others	Overall
(YES)	Respondents	16	10	14	14	135	189
	PCT of Area	64.0	50.0	63.6	70.0	65.2	61.4
(NO)	Respondents	9	10	8	6	70	104
	PCT of Area	36.0	50.0	36.4	30.0	33.8	33.8

Q. Of the five options, which would you prefer?

		Aurora	Capitol Hill	Lakewood	Littleton	All Others	Overall
(1)	Respondents	0	0	0	0	2	2
	PCT of Area	0	0	0	0	1.1	2.6
(2)	Respondents	3	3	6	3	27	43
	PCT of Area	13.6	21.4	37.5	20.0	14.3	14.0
(3)	Respondents	6	2	2	5	54	69
	PCT of Area	27.3	14.3	12.5	33.3	28.6	22.4
(4)	Respondents	5	2	4	3	33	47
	PCT of Area	22.7	14.3	25.0	20.0	17.5	15.3
(5)	Respondents	8	7	4	4	73	96
	PCT of Area	36.4	50.0	25.0	26.7	38.6	31.2

** Respondents answering "NA" or "dont't know" are not included in this breakdown.

APPENDIX II

COMPLETE RESULTS OF TELEPHONE SURVEY OF INDIVIDUAL NEEDS FOR ITFS SYSTEM OF OFF-CAMPUS ALTERNATIVE FOR HIGHER EDUCATION

TELEPHONE SURVEY ITFS QUESTIONNAIRE

(Total Sample 308) *

(1) How many adults 17 or over are in the household?

Answer	Respondents	PCT of total sample
1	61	19.8
2	180	58.4
3	40	13.0
4	18	5.8
5	1	.3

(2)(a) How many adult females are there in the household?

Answer	Respondents	PCT of total sample
1	232	75.3
2	33	10.7
3	3	1.0
4	1	.3
0	39	12.7

(2)(b) How many adult males are there in the household?

Answer	Respondents	PCT of total sample
1	211	68.5
2	40	13.0
3	10	3.2
0	47	15.3

(3) Sex of respondent:

Answer	Respondents	PCT of total sample
male	98	31.9
female	205	66.6

(4) Education completed by respondent:

Answer	Respondents	PCT of total sample
8th grade or less	8	2.6
some high school	18	5.8
completed high school	109	35.4
some college or trade school	83	26.9
2 year degree or completed trade school	6	1.9
completed college	53	17.2
post graduate training	17	5.5
advanced professional degree	11	3.6
no response	3	1.0

(5) If offered, would you be interested in taking college level courses in a public building such as a library, church or synagogue, or community center near your home?

Answer	Respondents	PCT of total sample
yes	230	74.7
no	48	15.6
don't know	28	9.1

(6) Would you be interested in taking such classes at your place of employment?

Answer	Respondents	PCT of total sample
yes	122	39.6
no	113	36.7
don't know	8	2.6
N/A	62	20.1

(7) Which would you prefer, classes near home or at work?

Answer	Respondents	PCT of total sample
near home	197	64.0
at work	31	10.1
don't know	25	8.1
N/A	50	16.2

(8) Would you be interested in taking such classes for cultural enrichment, professional or job-related growth, or both?

Answer	Respondents	PCT of total sample
cultural enrichment	44	14.3
job-related growth	57	18.5
both	173	56.2
don't know	10	3.2
N/A	22	7.1

(9) Would you be interested in adult education types of classes, such as classes on parent effectiveness training, consumer education, community politics, etc?

Answer	Respondents	PCT of total sample
yes	182	59.1
no	90	29.2
don't know	20	6.5
N/A	11	3.6

(10) Which of the following classes would you be interested in taking? (Choose no more than three)

Answer	Respondents	PCT of total sample
Mathematics	68	22.1
Business	132	42.8
Health Occupations	51	16.5
Industrial Occupations	33	10.7
Education	52	20.0
Human Care Services	50	16.2
Engineering	35	11.4
Liberal Arts	107	34.7
Fine Arts	121	39.3
Physical & Biological Sciences	73	23.7
Adult Education	72	23.4
Other	19	6.0
Don't know	9	.3

(11) Would you be interested in receiving credit for the classes from one of the colleges or universities involved?

Answer	Respondents	PCT of total sample
yes	187	60.7
no	79	25.6
don't know	26	8.4
N/A	13	4.2

(12) Would you take such a class if it was presented by television?

Answer	Respondents	PCT of total sample
yes	187	60.7
no	69	22.4
don't know	49	15.9

(13) Would you take a televised class in a group, with the option of talking with an instructor by phone?

Answer	Respondents	PCT of total sample
yes	183	59.4
no	94	30.5
don't know	28	9.1

(14) Would you take a televised class in a group, with the option of talking with an instructor by phone, and where you can have small group meetings with the instructor at a later time?

Answer	Respondents	PCT of total sample
yes	224	72.7
no	72	23.4
don't know	9	2.9

(15) Would you take a televised class in a group, where you can talk with an instructor individually by phone, and where you can play back the lesson at your convenience?

Answer	Respondents	PCT of total sample
yes	217	70.5
no	79	25.6
don't know	9	2.9

(16) Would you take a televised class by yourself, anytime you want, where you can play back the lesson at your convenience, as well as being able to talk to an instructor by phone, and meet with him or her in small group meetings?

Answer	Respondents	PCT of total sample
yes	222	72.1
no	78	25.3
don't know	6	1.9

(17) Would you take a televised class by yourself, anytime you want, where you can play back the lesson at your convenience, and talk to an instructor to arrange assignments and ask questions, a kind of self-paced instruction?

Answer	Respondents	PCT of total sample
yes	189	61.4
no	104	33.8
don't know	10	3.2

(18) Of the five options, which would you prefer?

Answer	Respondents	PCT of total sample
Group/phone instructor	2	2.6
Group/ph instr/sm grp mtngs	43	14.0
Grp/ph instr/sm grp mtngs/plybck	69	22.4
Indiv/ph instr/sm grp mtngs/ playback	47	15.3
Indiv/self-paced/playback/ phone contact for assignments	96	31.2
N/A	49	15.9

(19) Are you presently enrolled in any college-level course for credit?

Answer	Respondents	PCT of total sample
yes	30	9.7
no	275	89.3

(20) Are you presently enrolled in any type of class for non-credit? (This includes learning for living, adult education, etc.)

Answer	Respondents	PCT of total sample
yes	37	12.0
no	267	86.7

(21) Do you watch T.V.?

Answer	Respondents	PCT of total sample
rarely	56	18.2
occasionally	160	51.9
often	81	26.3
never	9	2.9
N/A (no TV)	2	.6

(22)(a) Approximately how old are you?

Answer	Respondents	PCT of total sample
17-25	73	24.3
26-40	140	45.5
41-55	63	20.3
56-84	25	7.9

(22)(b) What is your current occupation?

Answer	Respondents	PCT of total sample
Professional, technical	56	18.2
Managers, officials, and proprietors	15	4.9
Clerical	38	12.3
Sales workers	17	5.5
Craftsmen, foremen	26	8.4
Operatives	11	3.6
Domestics	1	.3
Other service workers	15	4.9
Students	10	3.2
Housewives	86	27.9
Retire, unemployed and widows	29	9.4

(22)(c) What is your household gross monthly income?

Answer	Respondents	PCT of total sample
$ 0	23	7.5
125-154	1	.3
200-224	3	1.0
225-299	2	.6
300-349	2	.6
350-399	6	1.9
400-499	5	1.6
500-599	5	1.6
600-699	14	4.5
700 or more	178	57.8
don't know	36	11.7
no response	32	10.4

(22)(d) What is the total number of people in the household?

Answer	Respondents	PCT of total sample
1	46	14.9
2	67	21.8
3	60	19.5
4	82	26.6
5	33	10.7
6	11	3.6
7	4	1.3

(23) What is your racial or ethnic background?

Answer	Respondents	PCT of total sample
Anglo	282	91.6
black	5	1.6
Chicano	13	4.2
Am. Indian	3	1.0
other	2	.6
no response	3	1.0

(24) If you have not completed high school, would you be interested in classes leading to a GED?

Answer	Respondents	PCT of total sample
yes	12	3.9
no	6	1.9
N/A	284	92.2

* total respondents may not sum to 308 for some items - resulting in insignificant error rate of not more than two percentage points.

APPENDIX III

COMPLETE RESULTS OF PERSONAL INTERVIEW SURVEY OF NEEDS OF SIXTY ORGANIZATIONS FOR ITFS SYSTEM OF OFF-CAMPUS HIGHER EDUCATION IN PLACES OF WORK

ORGANIZATION SURVEY ITFS QUESTIONNAIRE

(Total Sample 61)

(1) What type of organization is this?

Answer	Respondents	PCT of total sample
Community Service	17	27.9
Education/School District	10	16.4
Civil Service	16	26.2
Large Corporation	7	11.5
Heavy Industry/Manufacturing	5	3.2
Public Utility	3	4.9
Professional Association	2	3.3
No Data	1	1.6

(2) Number of Employees?

Answer	Respondents	PCT of total sample
100 or less	15	26.3
101-500	13	24.6
501-1000	4	5.2
over 1000	25	43.9
N/A	4	----

(3) If you are a community organization, how many members do you have? (Includes professional organizations and unions).

Answer	Respondents	PCT of total sample
100 or less	2	14.3
101-500	2	14.3
501-1000	3	21.4
over 1000	7	50.0
N/A	47	----

(4) If you are a human care service or social service agency, how many clients do you serve? (Adults, 17 or over)

Answer	Respondents	PCT of total sample
100 or less	1	3.6
101-500	5	17.8
501-1000	1	3.6
over 1000	21	75.0
N/A	33	----

(5) If you were to participate in the ITFS program, do you envision the program being used primarily by your employees and staff or by your clients (which include customers, patrons, patients, recipients of your services, etc.) ? Circle one:

Answer	Respondents	PCT of total sample
Employees and staff	33	54.1
Clients	7	11.5
Both	20	32.8
Other	1	1.6

(6) Approximately how many people checked above in Question 5 does this represent?

Answer	Respondents	PCT of total sample
50 or less	3	4.9
51-100	1	1.6
101-200	2	3.3
201-300	1	1.6
301-400	5	8.2
401-500	0	0
over 500	46	75.4
Don't Know	2	3.3
N/A	1	1.6

(7) To your knowledge, approximately what per cent of people represented in Question 5 presently have some college or technical training?

A. Some college or technical training?

Answer	Respondents	PCT of total sample
10% or less	7	11.5
11% to 25%	7	11.5
26% to 50%	11	18.0
51% to 75%	12	19.7
76% or more	19	31.1
Don't know	5	8.2

B. Possess a four-year or advanced college degree?

Answer	Respondents	PCT of total sample
10% or less	15	24.6
11% to 25%	12	19.7
26% to 50%	11	18.0
51% to 75%	10	16.4
76% or more	9	14.8
Don't know	4	6.6%

C. What per cent, approximately, are presently enrolled in a university or college for credit?

Answer	Respondents	PCT of total sample
10% or less	30	49.2
11% to 25%	14	23.0
26% to 50%	5	8.2
51% to 75%	1	1.6
76% or more	0	0
Don't know	11	18.0

(8) To your knowledge, approximately what per cent of those indicated above in Question 7C, i.e., those presently enrolled in a university or college course for credit, would take advantage of an ITFS program either at a facility provided by your organization or near their homes in a public or community facility?

Answer	Respondents	PCT of total sample
10% or less	7	11.5
11% to 25%	8	13.1
26% to 50%	7	11.5
51% to 75%	7	11.5
76% or more	6	9.8
Don't know	19	31.1
N/A	7	11.5

(9) Approximately, what per cent of those not presently enrolled in a college or university for credit do you feel would take advantage of an ITFS program either at a facility provided by your organization or near their homes in a public or community facility?

Answer	Respondents	PCT of total sample
10% or less	15	24.6
11% to 25%	10	16.4
26% to 50%	12	19.7
51% to 75%	6	9.8
76% or more	0	0
Don't know	16	26.2
N/A	2	3.3

(10) Do you foresee the possiblity of the ITFS program being utilized in conjunction with a certification, recertification, or mandatory or non-mandatory refresher training program for your employees and staff?

Answer	Respondents	PCT of total sample
yes	46	75.4
no	7	11.5
Don't know	6	9.8
N/A	2	3.3

(11) If you are a trade or professional association or union, do you foresee the possiblity of the ITFS program being utilized for upgrading skills, keeping up with new materials, or enhancing professional and trade ability?

Answer	Respondents	PCT of total sample
yes	24	96.0
no	1	4.0
Don't know	1	----
N/A	35	----

(12) Does there presently exist a tuition refund or other type of financial incentive program for your employees and staff, clients, or members?

Answer	Respondents	PCT of total sample
yes	41	67.2
no	18	29.5
N/A	2	3.3

(13) Would you install an ITFS receiving facility on your premises (such as an area set aside to house TV monitors, along with a full or part-time attendant who would control access to the material)?

Answer	Respondents	PCT of total sample
yes	33	54.1
no	6	9.8
Don't know	22	36.1

(14) Would you participate in efforts to establish such a facility for your employees and staff, clients, or members at a central location, not on your premises?

Answer	Respondents	PCT of total sample
yes	33	54.1
no	12	19.7
Don't know	15	24.6
N/A	1	1.6

(15) What types of courses do you feel would best serve the needs of your employees and staff, clients, or members, and those of your organization? (Choose no more than three)

Answer	Respondents	PCT of total sample
Adult Education	22	36.1
Life Skills Courses	12	19.6
Health Maintenance Courses	6	9.8
Human/Customer Relations	10	16.4
Labor Relations	4	6.5
Advanced Training	9	14.7
Skills Updating	23	37.7
Technical Training	13	21.3
Certification/Recertification	13	21.3
Professional Updating	21	34.4
Management Courses	32	52.5
Industrial Courses	6	10.0
Computer Science	4	6.6
New Technologies	6	9.8